Overview of the U.S. Environmental Protection Agency's Water Resources Division/Water Quality Management Branch Collaborations with Various Federal and International Partners for Drinking Water Treatment and Monitoring

Héctor E. Moreno
Microbiologist
U.S. EPA Office of Research & Development (ORD)/National Risk Management Research Laboratory (NRMRL)/Water Resources Division (WSWRD)/Water Quality Management Branch (WQMB)
(513) 569-7882
moreno.hector@epa.gov

Authors: Héctor E. Moreno, Roy Haught, Lucille Garner, Craig Patterson, Joel Allen
U.S. EPA ORD/NRMRL/WSWRD/WQMB
Keywords: drinking water, water treatment, water quality, small systems, international partnerships

To improve the quality of drinking water in the U.S. and abroad, the U.S. Environmental Protection Agency (U.S. EPA)/WSWRD/WQMB conducts research for the evaluation of alternative and innovative drinking water treatment and monitoring technologies. After decades of successes in this field, the WSWRD/WQMB is committed to share its expertise for promoting the development and exchange of practical and innovative information and technologies. To accomplish this, the WSWRD/WQMB has and continues partnering with other U.S. agencies, foreign governments, and other U.S. EPA offices in enhancing water treatment and quality and demonstrating that drinking water supplies can be made safer at reasonable costs.

The WSWRD/WQMB conducts international drinking water treatment and monitoring demonstrations. The WSWRD/WQMB had partnered with the U.S. Agency for International Development (USAID), the U.S Department of Agriculture (USDA), and Ecuadorian and Mexican health officials to demonstrate low-cost, small drinking water treatment technologies in communities in Ecuador and Mexico. Currently, the WSWRD/WQMB collaborates with the USDA, U.S. EPA/Office of International Affairs, and the Chinese government in testing and evaluating various drinking water treatments and monitoring technology configurations in selected sites in China. Through these projects, the U.S. EPA serves as a catalyst for expanding the drinking water technology market and gains valuable performance data for a variety of drinking water contaminants.

In support of the U.S. EPA regions, the WSWRD/WQMB conducted studies with surface waters in national parks in Minnesota (U.S. EPA Region 5) and Washington State (U.S. EPA Region 10) to evaluate the performance of commercially available bag filters under variable water qualities. Recently, the WSWRD/WQMB partnered with the U.S. EPA Region 2 Caribbean Environmental Protection Division to evaluate performance of innovative, low-cost water filtration technologies in isolated communities in Puerto Rico affected by severe fluctuations in water quality (funded by the Regional Applied Research Effort Program). Through this project, the WSWRD/WQMB will develop an effective/sustainable strategy that will solve the problems in hundreds of systems in tropical U.S. territories that do not receive filtered water, a direct

violation of the Surface Water Treatment Rule (SWTR). Finally, the WSWRD/WQMB is initiating international efforts on water quality sensors and early warning systems. KIWA, a water research consortium of the Netherlands, currently conducts efforts in Europe for identifying gaps between monitoring ambitions and the state of the science in an attempt to organize the various users of water quality monitoring systems into standardizing their use and validation. The WSWRD/WQMB is working closely with its European counterparts in setting up an international network on continuous biomonitoring, identifying gaps in knowledge, and defining actions to fill those gaps.